

FIGURE 1

2009020" 6548900T

203020" 55489001

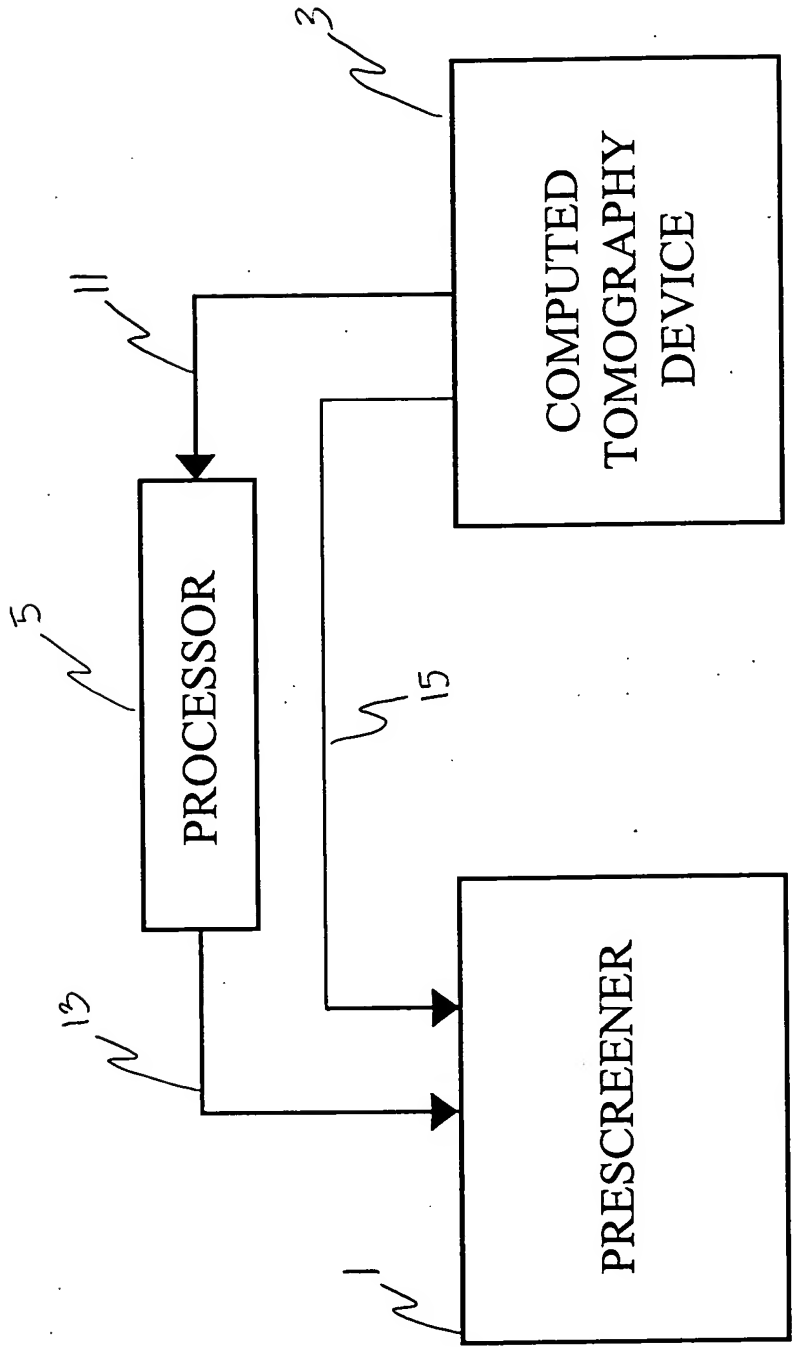


FIGURE 2

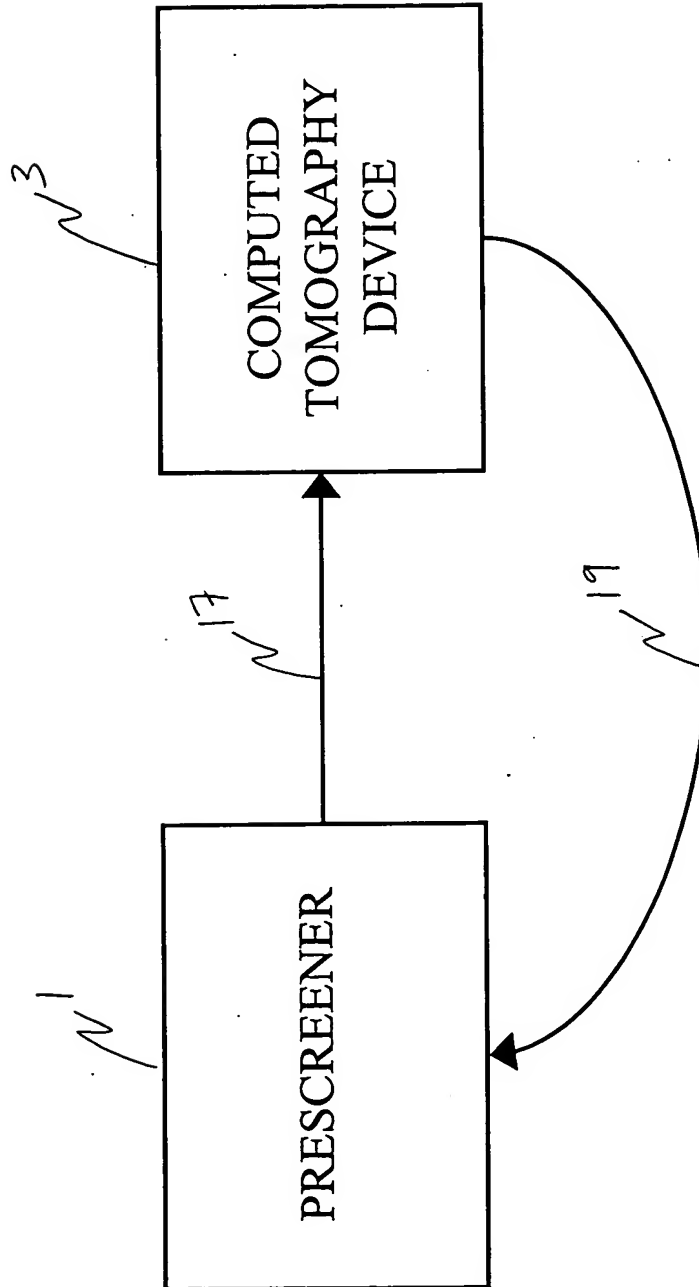


FIGURE 3

2009020" 6548900T

Figure 4

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graph TD
    20{{Load Bag Into Machine}} --> 21[Scan and Analyze Bag Using Dual Energy Prescanner]
    21 --> 23[/Generate Table A containing Zeff, Mass and Confidence Levels for All Objects/]
    21 --> 25[Generate List of Objects Warranting Further Study and Their Locations]
    23 --> 25
    25 --> 29{Are there any objects (or regions) that require further investigation?}
    29 -- yes --> 31[Move Bag to Location and Acquire CT Image]
    29 -- no --> 27{Make Decision}
    31 --> 33{Is there metal in the vicinity of the Interesting Object?}
    33 -- yes --> 35[Predict Metal Artifacts and Correct the CT Image]
    33 -- no --> 37[Analyze CT Image]
    35 --> 37
    35 --> FF[FeedForward]
    37 --> 39[/Generate Table B containing Densities, Areas, confidences and 3D locations for target objects/]
    39 --> 41[Update Zeff and Mass Using exact 3D Position]
    41 --> FB[FeedBackwards]
    FB --> 25
    39 --> 27
    37 --> 27
    27 --> 40([Take Appropriate Action (Move Bag Out of Machine, Reconcile With Passenger, call Bomb Squad ...etc)])
    27 --> 25
```

The flowchart illustrates the baggage screening process. It begins with loading the bag into the machine (20), followed by scanning and analysis using dual energy prescanner (21). This leads to generating Table A (23) and a list of objects warranting further study (25). A decision is made (27) based on whether further investigation is required (29). If yes, the bag is moved to the CT scanner (31), and a decision is made (33) on whether metal is present. If yes, metal artifacts are predicted and the CT image is corrected (35). The CT image is then analyzed (37), leading to the generation of Table B (39), which contains densities, areas, confidences, and 3D locations for target objects. Table B is used to update Zeff and mass using exact 3D position (41). The process then feeds back into the decision step (27) or the list of objects (25). The final action (40) is to take appropriate action based on the decision.



FIGURE 5

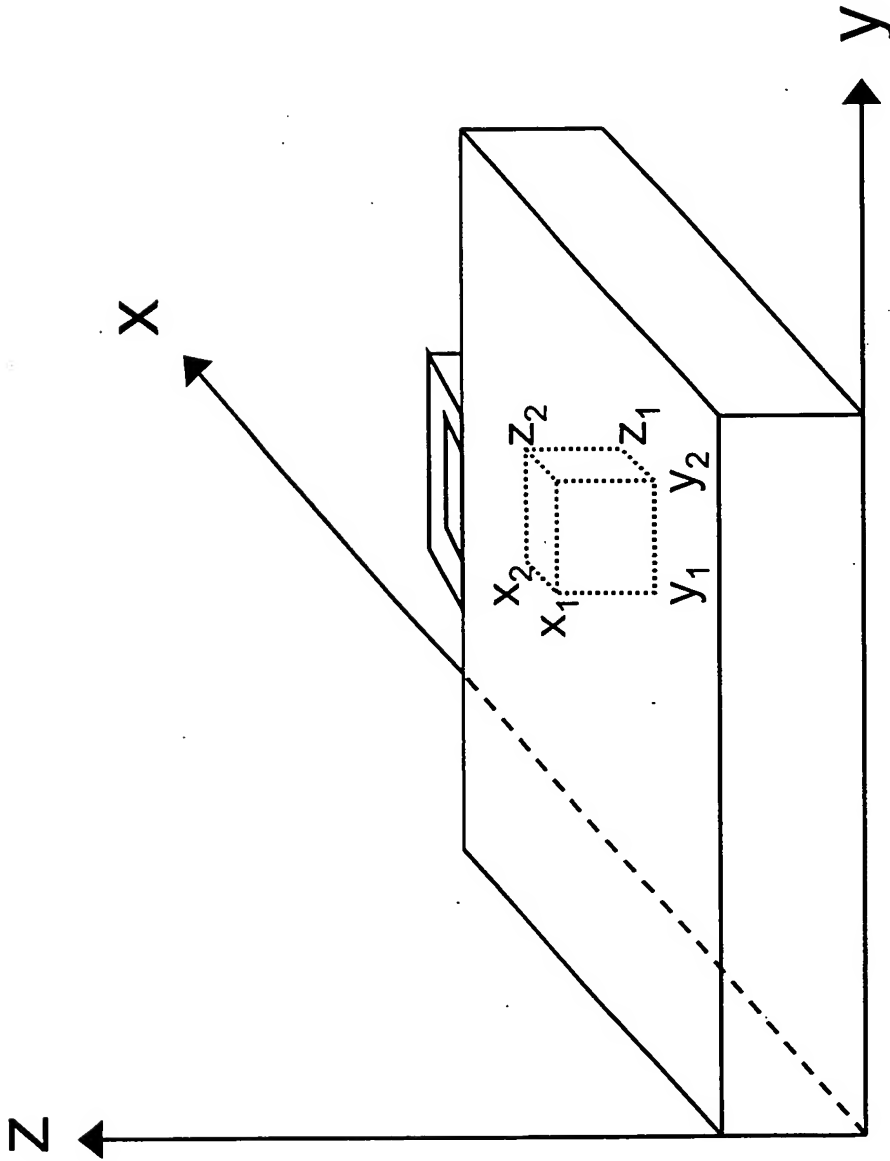


FIGURE 6

202005189001

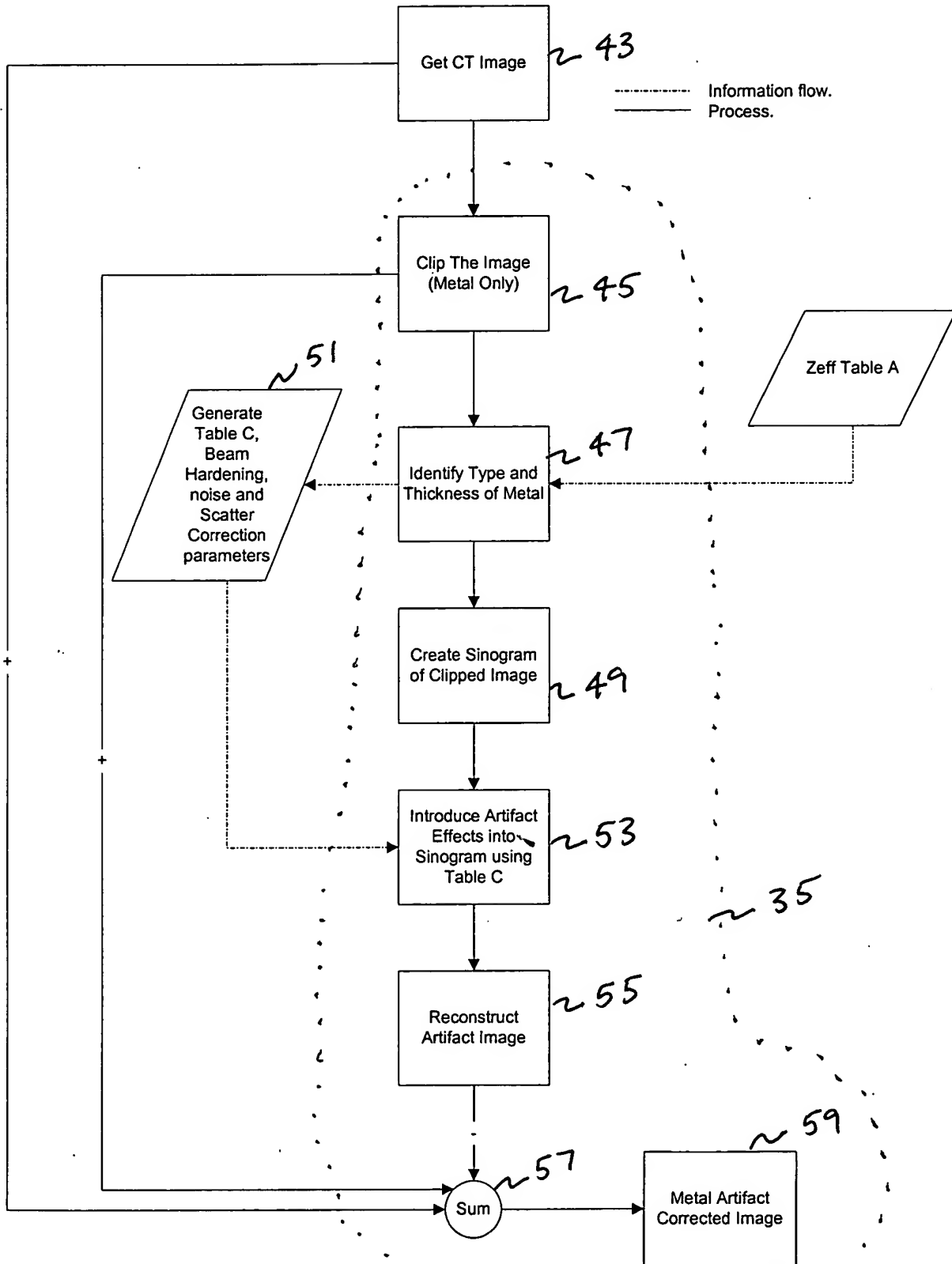


Figure 7

10068459.020602 209020.6548001